

To feed homeless and displaced people following a disaster or a possible nuclear attack upon this country requires advance planning. Radioactivity from fallout might further complicate emergency feeding following a disaster.

Emergency Feeding

By ROY E. BUTLER, M.D.

THE LATEST assumptions of the Federal Civil Defense Administration envisage the possibility of attack with thermonuclear weapons on many major cities in this country. The destruction of cities which are critical target areas would preclude adaptation of civil defense methods used in Europe in limited and localized bombings of the Second World War.

At that time Britons found that a bombed out worker was helped to get on with the job if he had a cup of tea and cakes. On being notified of a bombing incident, the Queen's Messengers, staffed by members of the Women's Voluntary Service, proceeded to the site with food-equipped vans and carried out emergency feeding operations. The warm meals served to bolster morale. Cash with which to buy food or restaurant meals, an attempt to restore normal food channels, and the provision of a small amount of food without particular regard to nutrient content were the usual methods of feeding the homeless. Mass feeding usually was limited to a day or two.

The dislocation of populations surviving or anticipating urban disaster would necessitate mass feeding on a huge scale for protracted pe-

riods. Regions near critical target areas in this country might be deluged by displaced thousands to be fed and housed under relatively primitive conditions. The salvage of food from areas contaminated by radioactive dust or water would pose hazards that might be multiplied several times by the concomitant use of chemical and biological warfare agents. Sanitary water supply, sewage and waste disposal, and food preparation would be difficult to provide in such an event.

The handling of some of these problems is described in "Emergency Mass Feeding—Instructor Course," a publication developed by the Department of Defense and the Federal Civil Defense Administration (1).

Those feeding evacuees immediately after attack would have to improvise ways of preparing available food. The need to appease hunger would take priority over attempts to prevent disease, to vary diet for different age groups or conditions, or to balance the nutrient content of emergency menus. It may be impossible to satisfy traditional food patterns.

Federal and State Cooperation

Ever since its establishment in January 1951, the Federal Civil Defense Administration has been helping States prepare for a war emergency. In the event of a general attack, FCDA would direct all Federal activities concerned with the saving of life and the relief of suffer-

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Salvation Army canteen provides ample helpings of cold ham and hot lima beans to the hungry and homeless during a flood disaster.

ing. Some States and local communities have their own programs for training civil defense workers. Each should have a plan for stockpiling food and medical supplies.

FCDA has placed responsibility for emergency feeding in its Welfare Office. This organizational pattern has been repeated in State civil defense organizations, where similar responsibility is centered in the welfare and public assistance programs. However, by FCDA-delegated authority, the Department of Agriculture has Federal responsibility for maintaining adequate emergency food supplies for target and support areas.

In discussing the problem of food supply in a national emergency, Federal Civil Defense Administrator Val Peterson made the follow-

ing statement to the House Agriculture Committee on March 7, 1956 (2) :

“In the first phase of an emergency, the problem may be less one of the reserve stocks of food than one of distribution.

“After the first few days or weeks of an attack, however, when processed food stocks have been depleted, then raw materials must be processed and placed in the distribution system.

“The question of how quickly the processed foods will be used up will, of course, depend upon the number of persons surviving to consume the food, the total amount of food, and the availability of transportation to distribute the food where it is needed.

“The Department of Agriculture is studying the problem of the amount of processed food

normally carried in the home, in the retail store, in wholesale houses, and in the processing plants. They are attempting to determine what percentage of the normal supply would probably be lost in a nuclear attack, in order to determine whether processed foodstuffs should be stockpiled to meet essential demands until food processing can again fill the demand. I feel confident that if their studies reveal serious shortages of particular foodstuffs, they will recommend that adequate stockpiles be formed.

"In this regard the Federal Civil Defense Administration has recommended that all households have a 7-day supply of food on hand."

Nutrition Planning

Although local distribution of food and emergency feeding operations are a welfare responsibility, it is expected that the health organization will supervise sanitation procedures relating to emergency food preparation and waste disposal. In addition, FCDA in the manual entitled "United States Civil Defense—Health Services and Special Weapons Defense" has recommended specific responsibilities for the health services in the field of nutrition (3).

The health and welfare services must cooperate in providing a nutritionally adequate supply of food for emergency feeding. To achieve this purpose, the welfare service should have a qualified nutritionist on its staff, the health department should include a nutrition service, and each program should be fully informed of the other's progress. The nutrition program of the health department should be directed by a qualified medical nutritionist who will advise on the suitability of the dietary planned for the local population.

With food shortages and conflict of needs and priorities, wise allocation of food supplies will be part of the price of survival.

How many calories must be supplied each individual cannot be specified. That will depend on the supplies of food and the activities and size of the population, but the supply should support life, the capacity to work, and morale. Periodic physical surveys of the population may be necessary to determine nutritional status and to justify and guide rationing policies.

Various recommendations have been made to guide families as to maintaining standby food supplies for emergency use. It has been assumed that households ordinarily would have 2 or 3 days' supply of food on hand.

The Federal Civil Defense Administration recommended a 7-day supply for the individual home after it became apparent in 1954 that thermonuclear weapons would produce considerable fallout. Dangerous radioactivity after an attack will keep people inside shelter for 7 to 10 days or more. When surviving homes are opened to shelter the homeless, the supply of food and water also will have to accommodate additional numbers.

In the preparation and distribution of food for large groups, observance of good sanitation practices will be difficult under emergency conditions. New or unfamiliar strains of bacteria may lead to outbreaks of diarrheal disease. Families may resist attempts at separation, and not merely because they like to eat together or because they are accustomed to their own ways of cooking and seasoning.

If mass feeding is necessary for only a few days, the problems cited will be relatively unimportant, but with extended periods of feeding homeless populations, for weeks or months, the problems may lead to trouble if not a complete breakdown of the operation. The prospect of feeding thousands or millions of homeless families emphasizes the value of adequate planning and efficient organization to proceed with any semblance of order.

Belsen Experience

Emergency feeding for the extremely malnourished or starving should receive some comment.

The use of protein hydrolysates to rehabilitate starving prisoners after the surrender of Germany in World War II has evoked considerable interest. Protein hydrolysates are mixtures of amino acids prepared by splitting a protein with acid, alkali, or enzyme. Several organizations in this country produced these substances for oral and intravenous use.

I well remember a news conference in London in May 1945, at which a British nutritionist



A classroom in a school, serving as an emergency relief center, is used for storing food and other supplies distributed to flood victims.

described his experience at Belsen after liberation of the concentration camp.

The prisoners fought madly against attempts to administer intravenous injections of protein hydrolysate material because they were convinced that the needles contained gasoline, infectious agents, or other toxic substances. They strongly resisted all efforts to make them take the protein compound by mouth. Forced feeding in quantities to meet metabolic requirements was similarly unsuccessful. Much more success was achieved with milk, eggs, sugar, and other familiar articles of food.

We cannot expect starving people to be rational.

Under the circumstances related, prisoners of professional status, physicians and nurses included, could not be entrusted with the care and feeding of other prisoners. Apparently their harrowing experiences and physical and mental condition affected their ethical and professional standards.

We hope that never again will such a degree of malnutrition be encountered.

Voluntary Agency Feeding Programs

The value of adequate planning and organization has long been recognized by the American National Red Cross, which has had ex-

tensive experience with meeting the emergency needs of disaster victims. Each local chapter has a food committee whose members are selected from dietitians, nutritionists, home economists, wholesale grocers, and managers of school lunchrooms, restaurants, and hotels.

An agreement, dated February 6, 1953, between the Red Cross and the Federal Civil Defense Administration provides for cooperative assistance in disasters other than those induced by enemy attack. Undoubtedly, to relieve a national disaster, the Red Cross would contribute to the full extent of its capacity. Likewise, the experience of the Salvation Army and the school lunch groups with mass feeding will surely be applied.

West Virginia Program

A good example of planning and organization by a State is found in West Virginia.

The civil defense program of West Virginia features the assignment of separate disaster functions to each of the State departments. The welfare functions of civil defense are centered in the West Virginia State Department of Public Assistance. Emergency welfare services are defined in the State plan as feeding kitchens, reception centers, and registration of disaster victims. No funds for civil de-

fense have been appropriated to the department, nor are there any budgetary provisions whereby additional personnel can be employed for the purpose.

According to the plan, the State director of public assistance will function as the civil defense chief for the division of welfare and will designate the department's nine administrative districts as areas in the civil defense program. One of the larger cities or towns is the headquarters and center of operation. The districts cover 55 counties.

In each area, the present district administrator of the department is the area chief for his district, and in each county, the county director is the county chief.

The department's workers, in their respective counties, will coordinate welfare needs with the county courts, county enforcement authorities, and the Community Chest, Salvation Army, Red Cross, and other voluntary agencies. All will function under the command of the county director for civil defense.

In the last few paragraphs, I have paraphrased portions of the annual report of the West Virginia State Department of Public Assistance for the fiscal period July 1, 1954, to June 30, 1955 (4). Now to quote directly:

"Fortunately the department of public assistance in West Virginia operates a division known as the Division of Commodity Distribution. Its program requires warehouses, the use of sidings, and trucks throughout the State. The department plans to develop that division, from that nucleus, into a wide range of volunteer services with trucks, cars, or whatever else is required in bombing emergencies to operate from the various sidings or warehouses which have been set up for the purpose of delivering foods and any other government-donated materials to the points of disaster."

In addition, I might add, the West Virginia Division of Commodity Distribution will have the responsibility of procuring food and goods from neighboring States. Formal agreements for the purpose have been negotiated by the West Virginia Department of Civil Defense.

The report (4) of the division of commodity distribution for the fiscal year 1955 indicates the magnitude of its normal operations. Dur-

ing the year the division provided commodities to 250,000 public assistance clients, served 11,961 persons in 84 State and private institutions, 13,209 children in summer camps, and 163,064 children through the school lunch program. Under disaster relief 2,500 persons received food.

The figures in the following list illustrate 7 different food items from a group of 19 distributed by the division in varying amounts over the same year (4). This is a partial indication of the experience one State department of public assistance has had in warehousing and distributing foods and of its ability to carry on this mission in a national emergency.

	<i>Pounds</i>
Beans, dried.....	6, 836, 800
Beef and gravy, canned.....	760, 005
Butter, processed.....	3, 637, 904
Cheese, processed.....	5, 822, 610
Milk, dried, processed.....	4, 790, 014
Rice, milled.....	6, 046, 900
Shortening.....	4, 353, 768
Total.....	32, 248, 001

NRC Suggestions

Immediately bearing on this whole problem and summarizing the essential elements of emergency feeding is a statement of the Food and Nutrition Board, National Research Council. The statement was published in 1951 (5):

"The Committee on Dietary Allowances has been requested to make suggestions which may assist State and local civil defense organizations in formulating plans for emergency feeding. The committee feels that certain general principles should govern all such plans. Of paramount importance is the inclusion of personnel with broad training and experience in nutrition in civil defense organizations at the highest administrative level. The efficacy of any feeding program during a period of disaster will be dependent on integration and collaboration with other essential services.

"In the event of enemy attack on this country, immediate and severe disruption of food supplies in the affected area may ensue. The initial problem will be one of supplying water and of distributing whatever foods may be available. It is unrealistic to expect to provide an

adequate diet or to designate specific nutrient requirements for this emergency period for any large population. Food to supply energy needs, preferably from bread, soups, or stews, should suffice for the first few days. As soon as possible, milk, including skim milk powder or evaporated milk should be provided, particularly to pregnant or lactating women, and to children from infancy through adolescence. Foods such as those mentioned above, in contrast to highly refined products, will furnish protein and other essential nutrients as well as energy. It should also be emphasized that a hot beverage, regardless of its nutrient content, is highly desirable early in an emergency feeding period.

“For infants, special plans should be made to assure maintenance of adequate supplies of canned evaporated milk, dry milk powder, cereals, and water for emergency feeding.

“It should be appreciated that drastic reduction of food intake for a few days, or even weeks, is tolerated reasonably well except by infants, by lactating women, by the sick and injured, and by those engaged in heavy physical work. This is particularly true if the calories that are available come largely from foods that furnish a variety of nutrients such as bread, potatoes, and milk, in contrast to foods such as sugar, sirups, and oils, which supply calories primarily. In longer periods of food shortage, special provision should be made not only for the more vulnerable groups indicated above but also for women who are pregnant.

“If emergency feeding must be continued for more than a few weeks, the problem of individual nutrients, as well as calories, assumes importance. Cognizance must be taken of needs for protein, thiamine, other B-complex vitamins, and ascorbic acid. Deficiencies of minerals and fat soluble vitamins are not likely to occur unless food shortages have persisted over several months.

“In any prolonged emergency, nutritional appraisal of the population by trained survey teams should be an integral part of the program. In this way, any deleterious effect of

the food allowance on health can be determined and plans for correction instituted.

“Care should be taken not to waste food due to possible contamination by atomic radiation. Food present in closed containers is safe in nearly all cases, if the outside of the container is washed. Food in open or broken containers exposed to radioactive materials should be monitored before use.”

Conclusion

Adequate preparation for an emergency requires the development of an effective organization of competent people who are familiar with the problems to be expected and the best possible solutions for them. The emergency feeding personnel should be familiar with the responsibilities of the other civil defense services such as transportation, communications, supply, fire, and police. Adequate stocks of the proper foods would be helpful but cannot be anticipated. Improvisation and substitution would be the order of the day, and all efforts should be pointed toward existence and survival and the successful defense of the country.

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